# Time Maps

Ψ Scott Matheson Hitchcock

**REVISED/UPDATED 11/10/24**

Ψ "The Map is not the territory" - Alfred Korzybski

**Abstract: Making maps of time to illustrate how things change in the universe can lead to amusing and sometimes insightful pictures. These pictures and illustrations do not tell you about the Ψ fundamental nature of time and can mislead one into thinking that time is just a graphic property of a map.**

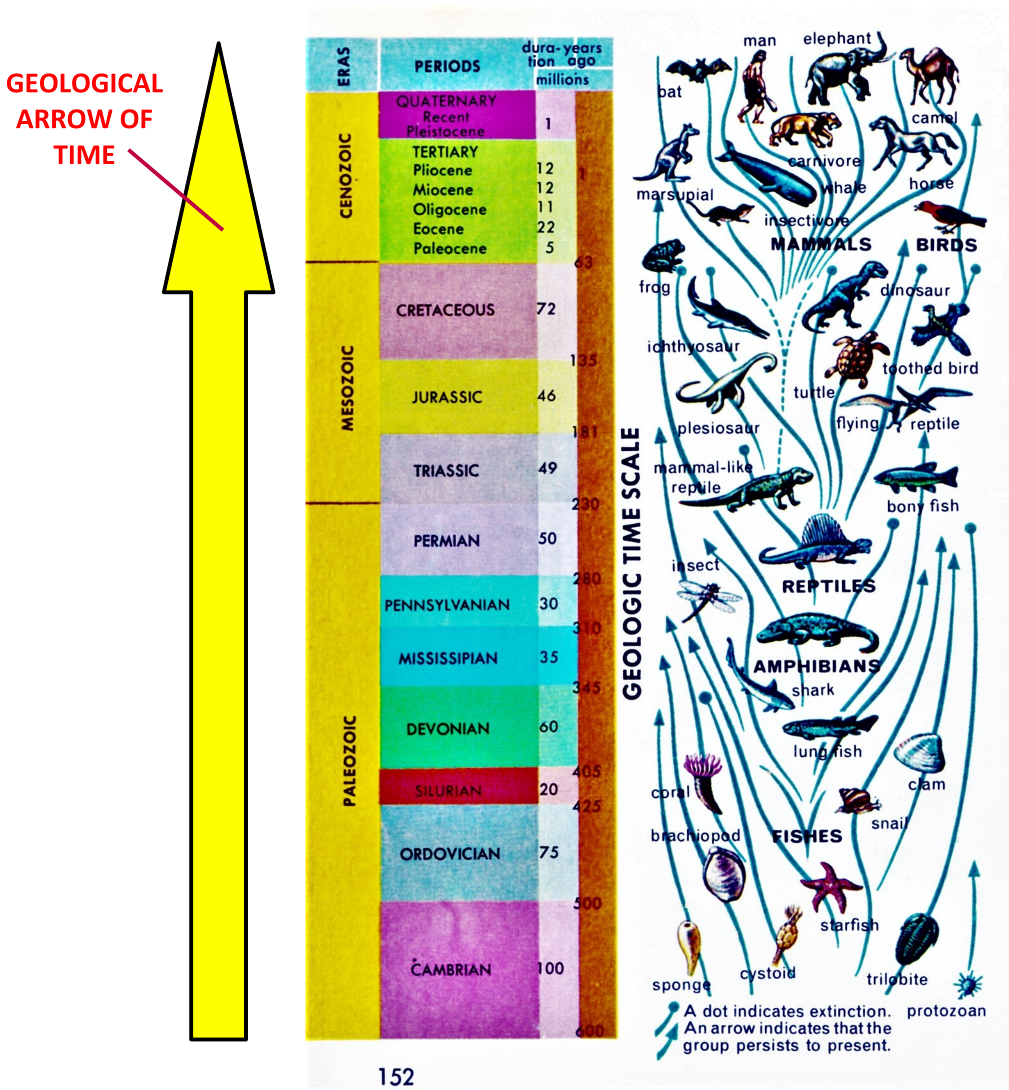



**Figure 1.**The **geologic time scale arrow of time** as well as time arrows for various branches of evolution are illustrated in this composite time map. The branches of evolution are compared to their counterpart epoch in geological time. Note that these arrows of time are created by us and do not exist independently as time in space-time models of the universe. The shape of these arrows is flexible and depends only on their acting as pointers from *cause* to *effect* or from one event to the *next* event in a causal network. This time is defined as the interval between sequential events compared to a standard clock to give it a number.

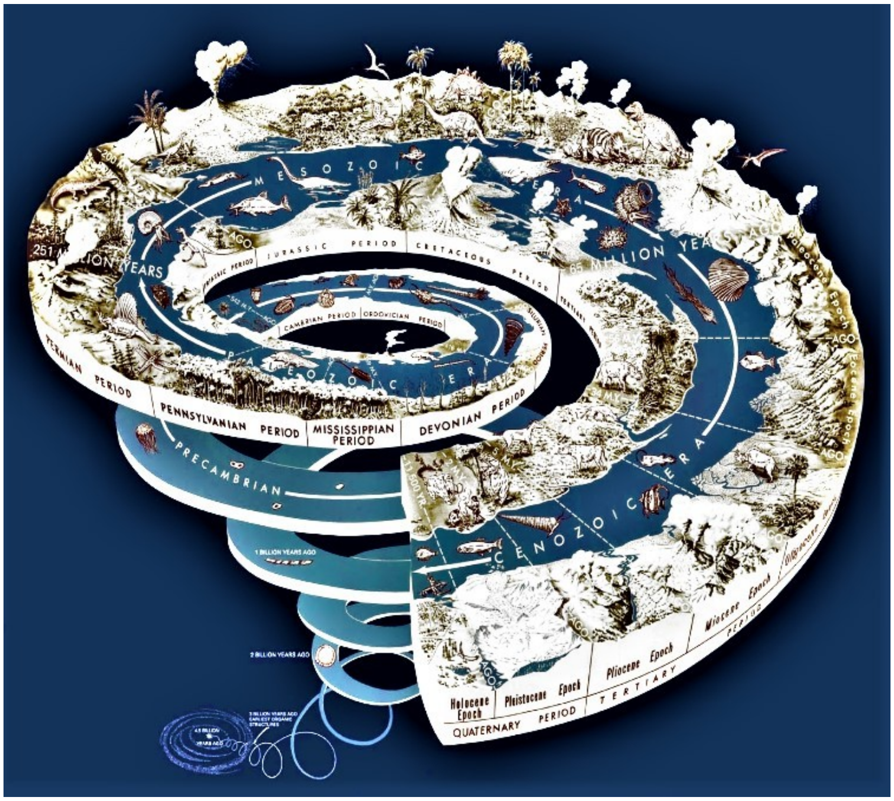



**Figure 2** This illustration is **misleading** in that it ***appears*** that **time is some sort of spiral**. This illustration is a good example of how one can construct arrows of time even as a spiral compared with more conventional linear or straight arrows. Since it is an illustration and a creative way to display data or tell a story of evolution this picture cannot give any real insight into the fundamental nature of time. The evolution of the earth and the universe in this space and time [a.k.a. space-time] model demonstrates how time is used to connect the past with the present. This assumes that space-time is a fundamental arena that exists *independently* of the actual observable cosmos within which the universe evolves.

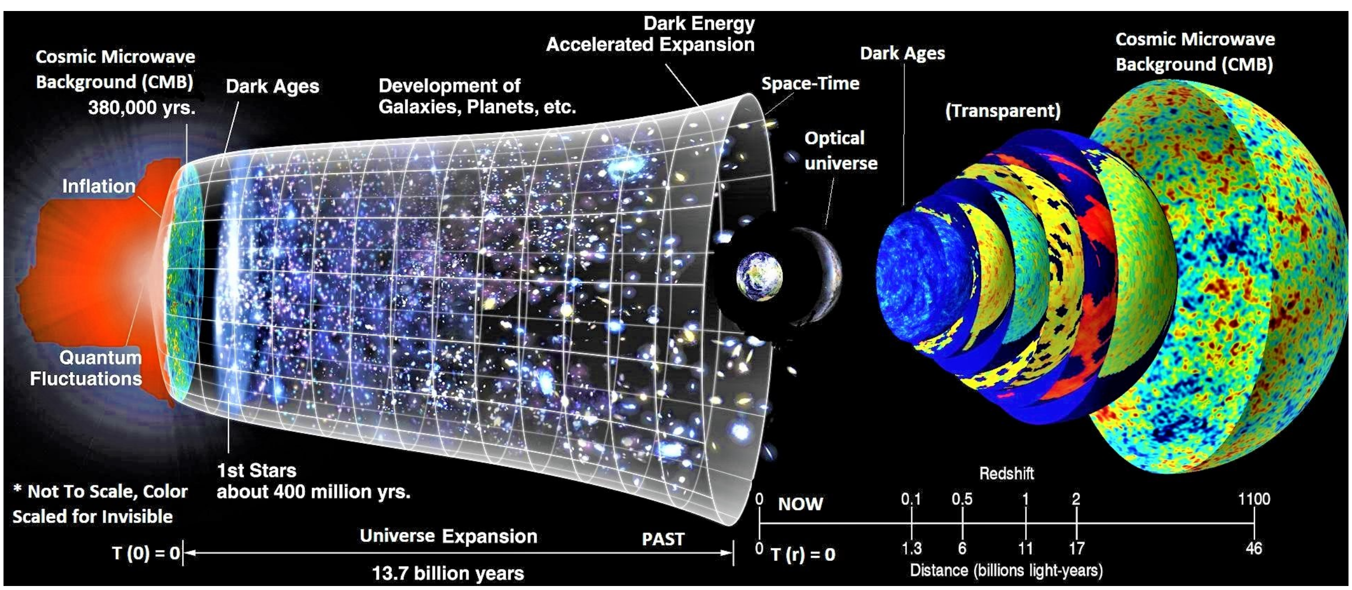



**Figure 3.** This is an illustration of the universe with time as a map of the changes of the configurations and states at sequential evolutionary epochs. This assumes space-time models are a valid way to define time. Space-time is only a **map** and not real like the vacuum and the matter floating on it. The assumption that the universe exists inside space-time leads to erroneous concepts of time. You can see that on the lower left there is a Universe Expansion 'arrow of time' or a cosmic time associated with this map.

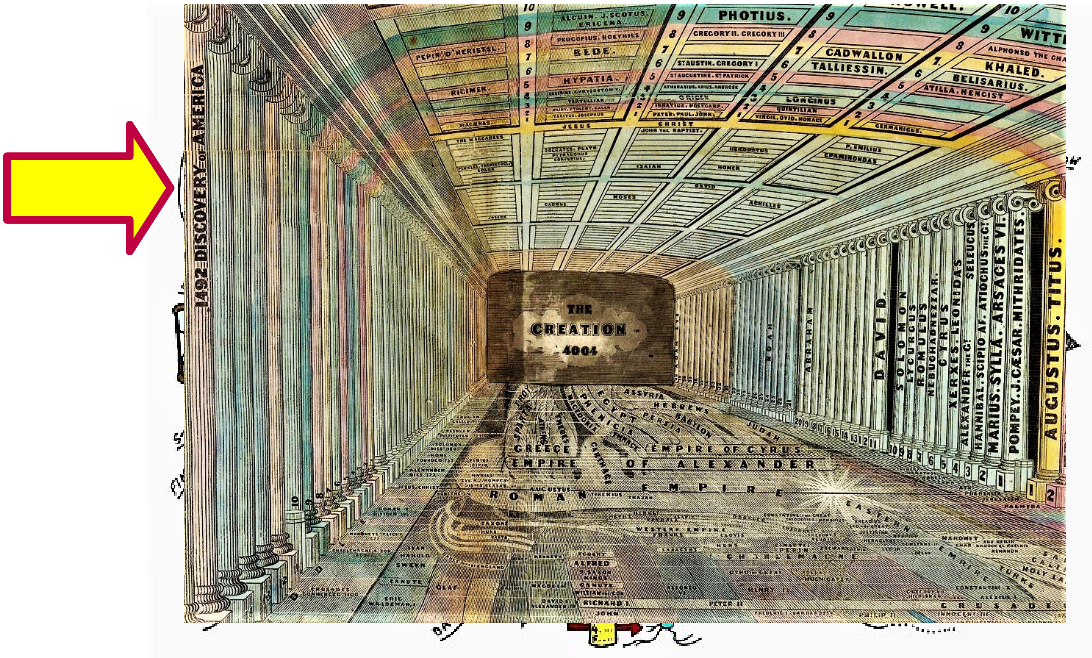



**Figure 4** This figure is an attempt to put a religious chronology into a map with the fictitious beginning of the universe starting at 4004 B.C. or B.C.E. (for "before common era") In spite of the visual complexity there is no clear arrow of time, yet it purports to map in a sort of architectural form the beginning of time up until this diagram was fabricated [possibly 1492 as seen on the left pillar]. This is an example of a map that confuses time with this fanciful illustration.

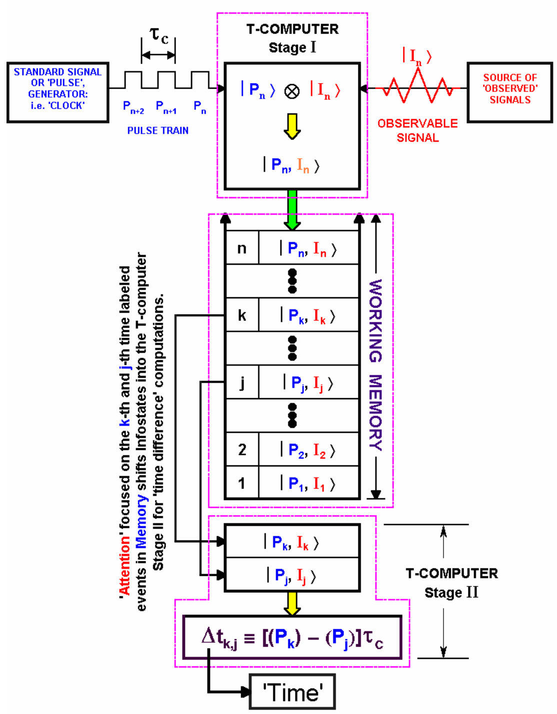



**Figure 5** Our brains **Ψ** **T-computer** [it's logic diagram illustrated above] makes this all possible and allow us to construct maps of evolution from time labeled information states or info-states such as memories. Here is where one must have a clear understanding about the fundamental nature of time in order to interpret a cosmic arrow time as a map of the evolutionary stages of the universe. A review of what time is and what time is not is in order here.

# A review of the 7 principles found to be the actual nature of time.

1. Ψ **Philosophy of Time**: **TIME EXISTS AS INFORMATION**, ***NOT as a dimension***. **Time is as real as information is real.**

2. **Arrows of Time**: Cosmic Arrows of Time and all other arrows of time only exist as constructions from signal/information flow in Ψ **causal networks**. All arrows of time point from cause [source] to effect [sink] from simple 2-level systems at the quantum scale such as photon emission in atoms up through the cosmological domain through hierarchical scaling of interconnected causal networks at various Ψ **plateaus of complexity [POCs]**.

3. **Direction of Time**: only exists as directions associated with vectors representing arrows of time pointing from cause to effect [source to sink] in the causal networks of the evolving universe.

4. **There is no Time to travel 'in'**, only space [i.e. the vacuum] where the 'now' created by our consciousness is all we can directly experience. Note that the vacuum exists as a physical entity and space is only a map of this fundamental basis for the universe.

5. Ψ **Our brains T-computer creates 'time'** labeled maps of the patterns of observed changes in the configurations of matter in the universe into sequential time stamped and labeled memories. Change is a Fundamental property of the universe, time is not.

Ψ **"No change, then, no time" – J. B. Priestley**

6. **The Problem of Time** therefore has been solved using **Feynman Clocks**, **T-computers**, and **Causal Networks** where time is calculated from information extracted and processed from observed or detected signals by a system composed of causal networks, Feynman clocks [as nodes in the causal networks], standard clocks, and the brains T-computer.

7. **The Vacuum is space and Time is a measure of Changes** in the configurations of matter floating on the surface of the vacuum. We attribute dimensions to the vacuum [space] as part of our application of geometry [models] to the real world. The vacuum is much more complex that mere 'empty' space. The vacuum is in fact a multi-vacuum with properties that depend locally on matter and globally on cosmic universality. Cosmological evolution is measured by the maps of change we construct using time as a metric.

See this link for a discussion of Ψ **why space-time diagrams are wrong** especially when looking at time as a fundamental property of the universe:

**Special Note**: **Time is still useful as a measure of change in our daily lives. Using repeating reproducible regular signal generating systems such as standard clocks [e.g. atomic clocks, watches, computer clocks etc.] gives us a way to create our ordered time maps. Time produced by comparison of a standard clock with the observed system and processed by our brains T-computer or similar 'clocked' information processing devices is 'real'. The reality of time as a pacer of human activities is embedded in our lives.**

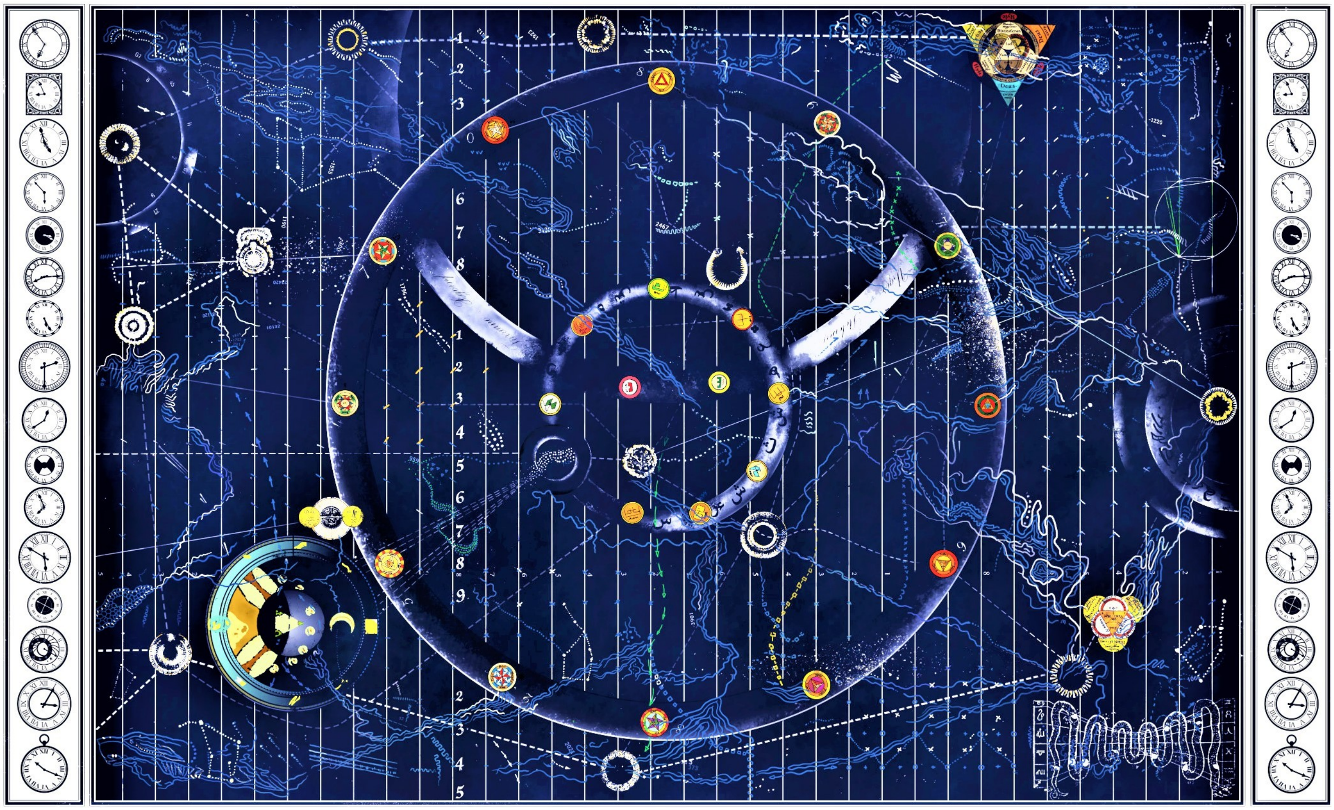


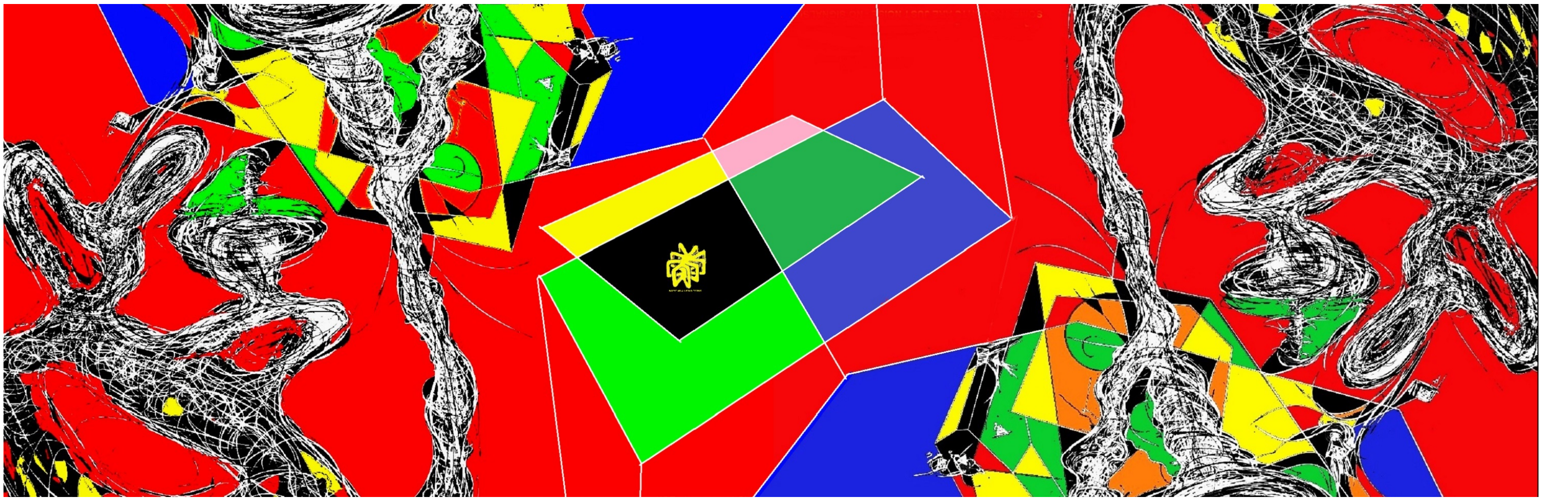
**Figure 6**. Time Bandits Treasure Map of the Universe.

After this brief summary of the true nature of time, we can look at how time is constructed from observed changes in the configurations of matter in the universe. It is this time that can be used to create a very wide variety of **maps** a few of which are illustrated above.

**CONCLUSIONS:**

**When reduced to its simplest terms time is really an *assigned* arrow of time to the various models and maps we create for the changing universe around us, defining its age, and charting its evolution. Our time maps are intimately connected with time as a human defined parameter for discussing how we got to the 'now' of our existence from a past [look back 'time'] and forward into a fictitious or imagined future in which we attempt to predict the outcomes of various events in the universe. Key to this is that time is our construction in our attempts to model the cosmos from microscopic particles to our minds and then on to the universe at its largest scales, where *time is not a dimension* but a tool created from information carried by signals and detected by our senses and processed using our brains T-computer. The signals emerge from matter in unstable configurations during their reconfiguration processes to more stable states. Change is a fundamental property of the evolving universe – time is not fundamental.**

**Ψ SEE: SCOTT'S SIGNIFICANT PAPERS describing his NEW THEORY OF TIME based on his innovative system of Feynman clocks, causal networks, and T-computers.**



# FC, CEN, and SEN NODES for Building CAUSAL NETWORKS

**SCOTT MATHESON HITCHCOCK**

►►►►►UNDERSTANDING AND SOLVING THE PROBLEM OF THE FUNDAMENTAL NATURE OF *TIME* REQUIRES A SYSTEMS APPROACH WHERE THE SOLUTION IS FOUND BY CREATING A SYSTEM BUILT WITH CAUSAL NETWORKS, FEYNMAN CLOCKS, AND THE BRAINS T-COMPUTER.

►►►►►► A SYSTEMS APPROACH GIVES US THE SOLUTION TO THE PROBLEM OF TIME: FOR SIMPLE SYSTEMS, ACCORDING TO THE PRINCIPLE OF OCCAM'S RAZOR THE SIMPLEST EXPLANATION FOR OBSERVED BEHAVIORS IS THE BEST CHOICE. BUT FOR COMPLEX SYSTEMS, A SYSTEMS APPROACH IS NECESSARY FOR UNDERSTANDING COMPLEX PHENOMENA AND HOW TIME IS CREATED BY CHANGE IN THE UNSTABLE CONFIGURATIONS OF MATTER THROUGHOUT THE UNIVERSE.

►►►►►►SIMPLE EXPLANATIONS ABOUT THE FUNDAMENTAL NATURE IF TIME ARE NOT ADEQUATE, THIS IS WHY TO UNDERSTAND THE NATURE OF TIME HIS SYSTEMS APPROACH WORKS BEST TO CLARIFY ISSUES ABOUT THE FUNDAMENTAL PHYSICS AND NATURE OF TIME INCLUDING TIME TRAVEL AND OTHER TIME EFFECTS.

►►►►►BELOW ARE SOME OF THE VARIOUS TOOLS THAT CAN BE USED TO BUILD CAUSAL NETWORKS TO MODEL REALITY SUCH AS COLLECTIVE EXCITATION NETWORKS [CENs] AND SEQUENTIAL EXCITATION NETWORKS [SENs].

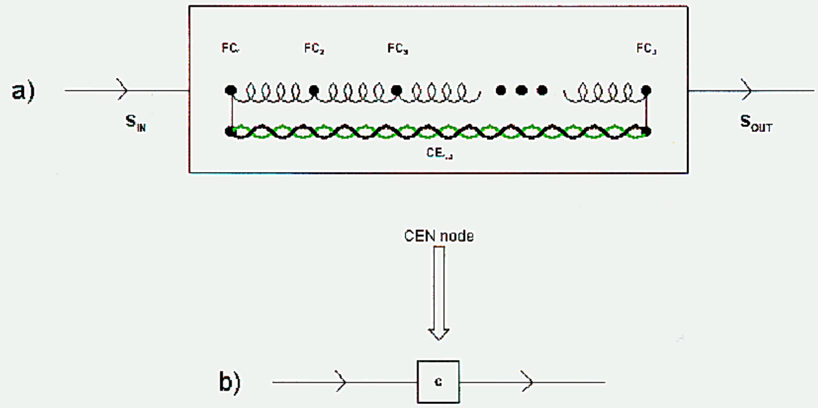



Figure 1: A general Collective Excitation Network or CEN 'node or 'gate' as an 'entangled' or coupled system of '$J$' Feynman Clocks with a phonon-like Collective Excitation $CE_{1,J}$. The simplified causal network node notation is shown below.

CEN DIAGRAM

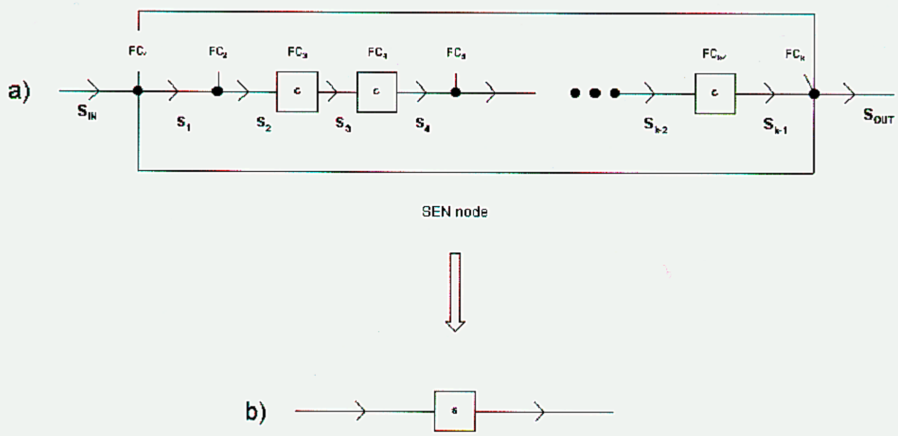



Figure 2: A general Sequential Excitation Network or SEN 'node' or 'gate' as a sequence of $k$-Feynman Clocks or CENs and $k+1$ signals. Information flows from left to right with a 'classical' lifetime equal to the sum of the lifetimes of the nodes and the internodal signals (transit or decay lifetimes). The simplified causal network node notation is shown below.

SEN DIAGRAM

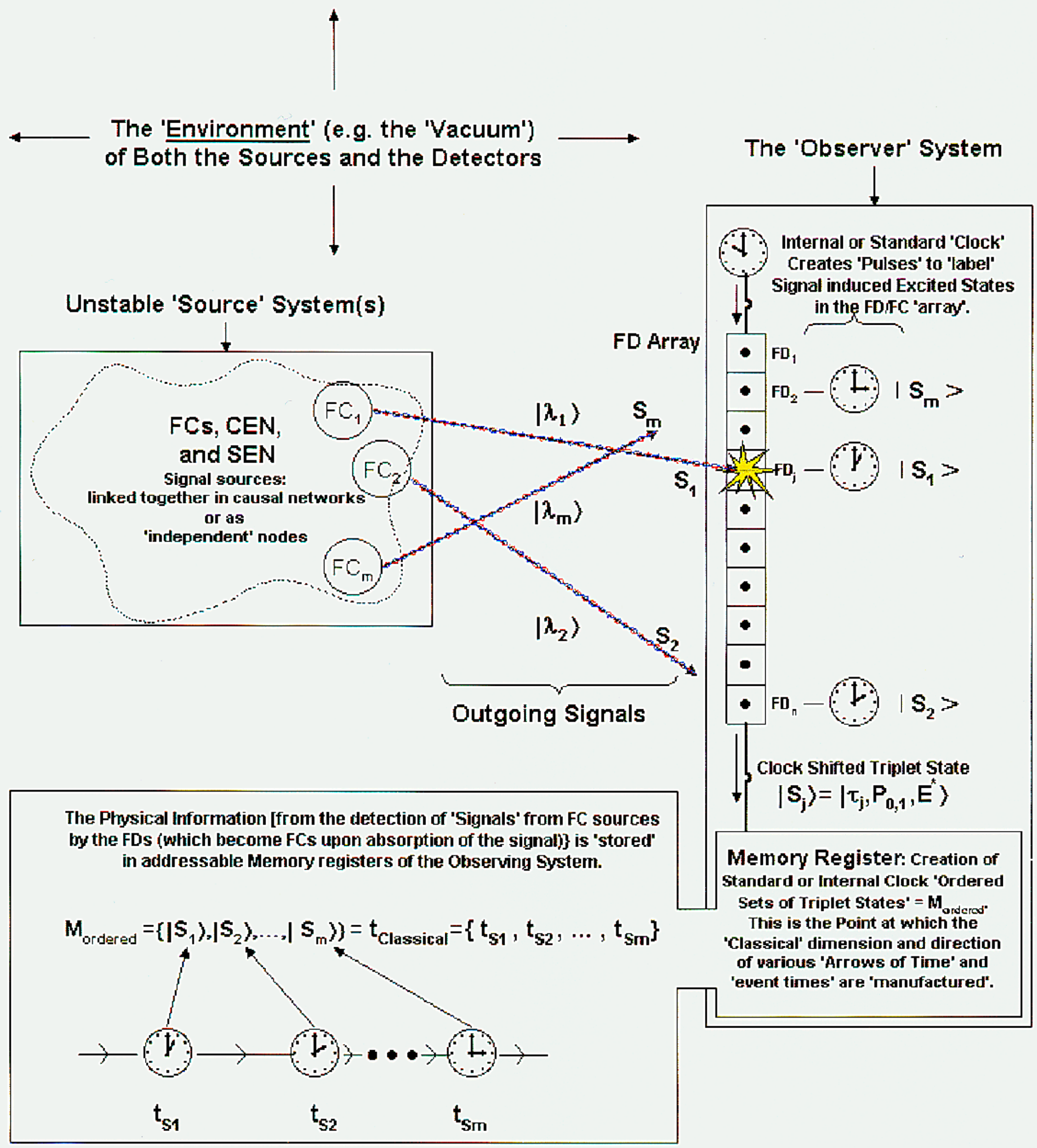



**FIGURE 3** The Signal Mapping process in which 'event' signals originating in FCs are detected in FD arrays (the FD 'mode' of FCs in an array) creating states that are entangled with standard or internal clock pulse signals, event counter labels, and signal induced detector states (see Figure 4). These are stored in memory or processed further to extract the number that is used to label a 'time' with an event.

SIGNAL MAPPING TO CREATE TIME LABELED MEMORIES

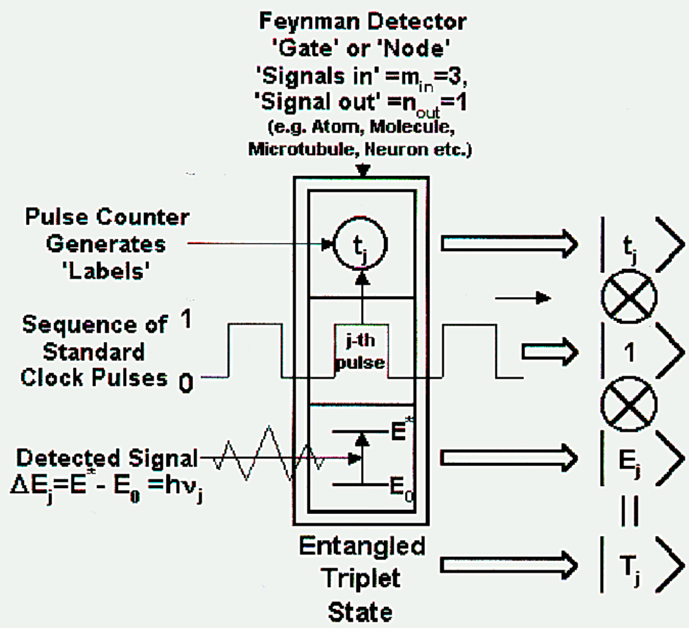
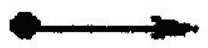
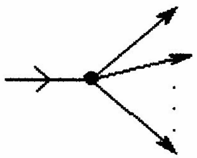
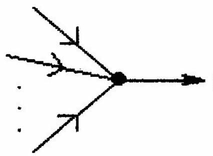
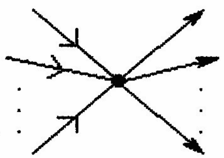
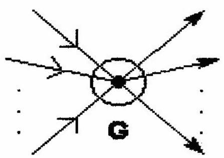
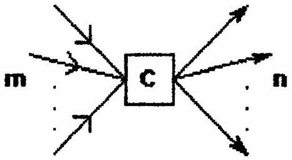
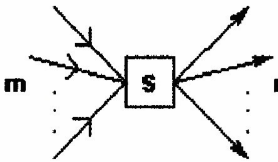
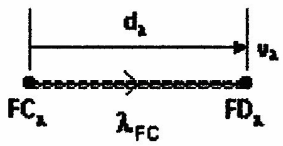
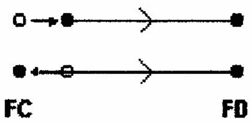



Figure 4: The creation of an *entangled* Triplet State that couples a detector state with a standard clock pulse and a label state generated by a pulse counter.

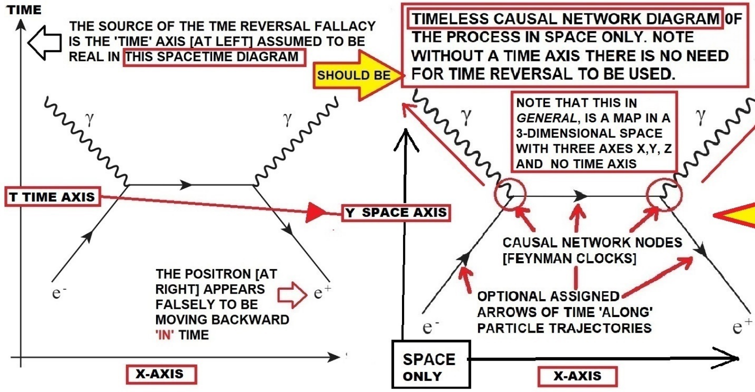
CREATING TIME FROM A STANDARD CLOCK PULSE SIGNAL COUPLED TO A FEYNMAN CLOCK IN A STATE OF DETECTION OF A SIGNAL THAT GIVES A TIME LABEL TO THE INFORMATION CONTENT OF THE SIGNAL.

| Causal Network Node Symbol: | Feynman Operator, F: | Example: |
|---|---|---|
| m = 0 ○ n = 0 | $F = \langle 0 \mid H_{0,0} \mid 0 \rangle$ | 'Vacuum', Equivalent 'mass' = 0 |
| m = 0 ● n = 0 | $F = \langle 0 \mid H_{0,0} \mid 0 \rangle$ | Stable Particle or System Equivalent 'mass' ≠0 |
| m = 0  n = 2 | $F = \langle 2 \mid H_{0,2} \mid 0 \rangle$ | Vacuum Fluctuations; Virtual Pair Production |
| m = 0  n = 1 | $F = \langle 1 \mid H_{0,1} \mid 0 \rangle$ | Simple Decay; Fluorescence, Relaxation of Collective Excitations |
| m = 1  n = 1 | $F = \langle 1 \mid H_{1,1} \mid 1 \rangle$ | 'Linear' Transmission of Signals, Logic Gates |
| m = 0,1  n | $F = \langle n \mid H_{0,n} \mid 0 \rangle$ | Multiparticle 'Spontaneous' Decay of a Nucleus, Big Bang |
| | $F = \langle n \mid H_{1,n} \mid 1 \rangle$ | Scattering, Stimulated Decay or Emission through Collisions |
| m  n = 0,1 | $F = \langle 0 \mid H_{m,0} \mid m \rangle$ | Fusion, Creation of System in an Excited State, With or Without a 'Target Mass' |
| | $F = \langle 1 \mid H_{m,1} \mid m \rangle$ | Neurons, 'Irreversible' Quantum or Classical Logic Gates, Information 'Funnels' |
| m  n | $F = \langle n \mid H_{m,n} \mid m \rangle$ | The General Form of the Feynman Clock, Node, or Gate |
| $m_B$  G $n_R$ | $F_G = \langle n_R \mid H_G \mid m_B \rangle$ | A Feynman Clock in a Gravitational Field with blue(m) and red(n) shifts of in/out signals respectively |

| Causal Network Node Symbol: | Feynman Operator, F: | Example: |
|---|---|---|
| m  n | $F_{CEN} = \langle n \mid C_{mn} \mid m \rangle$ | CEN or Collective Excitation Network; Crystals, Lattices, DNA,etc., with collective rotational, vibrational, and translational modes. Signals: EM waves, Photons, Plasmons, Excitons, Phonons, and Solitons etc. |
| m  n | $F_{SEN} = \langle n \mid S_{mn} \mid m \rangle$ | SEN or Sequential Excitation Network; Photosystems I and II, Cell Life Cycles, Quantum Computers, Neural Networks, Central Nervous System etc., Signals and States can be a mixture of FCs, FDs, CENs and sub-SENs with Quantum and Classical Collective Excitations. |
|  | $F_\lambda = \langle \Psi_{FD} \mid H_\lambda \mid \Psi_{FC} \rangle = d_\lambda / v_\lambda$ | A signal trajectory FC: where the 'path' between a FC node and a FD node is treated as a decay of a single FC system. The signal 'lifetime' is equal to a 'classical' free particle traversal or transit time for an average velocity '$v_\lambda$' over a total distance '$d_\lambda$' (Note that the path may be curved and the velocity may vary, see text). |
|  | $F_{FD} = \gamma^{-1} F_{FC} = (1-(v^2/c^2))^{1/2} F_{FC} = \gamma^{-1} \langle 1 \mid H_{m,1} \mid m \rangle_{FC}$ | Emission of a Signal from a FC (or CEN) in motion Relative to a FD (or CED); Doppler blue shifted and red shifted signals for FC moving towards and away from the FD respectively. The FC may have a velocity, v, where γ is the relativistic correction term for the Feynman Operator acting on FC as seen by FD. |

**FEYNMAN CLOCK [FC], COLLECTIVE EXCITATION NODE [CEN], AND SEQUENTIAL EXCITATION NODE [SEN] REPRESENTATION FOR BUILDING CAUSAL NETWORKS.**

# JUST LOOK AT THE AMAZING RESULTS: $\tau_{GUTs} = \alpha\tau_{strong} = \beta\tau_{weak} = \delta\tau_{electromagnetic} = \varepsilon\tau_{gravity}$

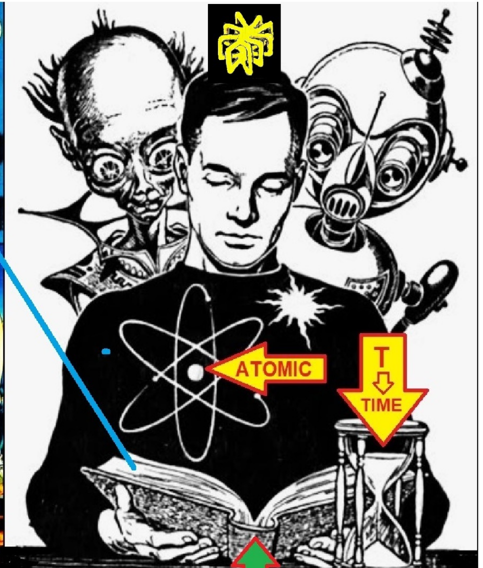



WHY Feynman's Positron Time Reversal Proposal in 1949 is WRONG AND THE TIME REVERSAL & TRAVEL MYTHS are *FINALLY CLEARED UP* by SCOTT MATHESON HITCHCOCKS THEORY OF TIME










SCOTT LIKES TO READ
THE RISE OF SCIENTIFIC PHILOSOPHY by HANS REICHENBACH

SCOTTS NEW THEORY OF TIME: WHERE TIME IS COMPUTED FROM INFORMATION EXTRACTED AND PROCESSED FROM SIGNALS BY A *SYSTEM* COMPOSED OF CAUSAL NETWORKS, FEYNMAN CLOCKS [AS NODES IN THE CAUSAL NETWORKS], STANDARD CLOCKS [FOR CALIBRATION], AND THE BRAINS T-COMPUTER.

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FOR SIMPLE SYSTEMS, ACCORDING TO THE PRINCIPLE OF OCCAM'S RAZOR THE SIMPLEST EXPLANATION FOR OBSERVED BEHAVIORS IS THE BEST CHOICE. BUT FOR COMPLEX SYSTEMS, A *SYSTEMS APPROACH* IS NECESSARY FOR UNDERSTANDING THE OBSERVED PHENOMENA. CLEARLY SIMPLE EXPLANATIONS ABOUT THE FUNDAMENTAL NATURE IF TIME ARE NOT ADEQUATE, THIS IS WHY SCOTT REALIZED THAT TO UNDERSTAND THE NATURE OF TIME HIS SYSTEMS APPROACH WORKS TO CLARIFY ISSUES ABOUT THE FUNDAMENTAL PHYSICS AND NATURE OF TIME.